



CITY OF SAINT PAUL
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FIRE PREVENTION PRACTICE #3-26

September 29, 2006

TO: Fire Prevention Personnel

FROM: Steve Zaccard, Fire Marshal

SUBJECT: Combined Fire and Domestic Water Systems

THIS PRACTICE IS TO SERVE AS A PROCEDURAL GUIDE FOR YOU TO FOLLOW. EXCEPTIONS TO THIS PRACTICE SHALL BE APPROVED BY THE FIRE MARSHAL THROUGH YOUR SUPERVISOR.

The domestic water service may be connected to and supplied with water from the fire service under the following conditions.

1. The services shall be sized in a ratio of 4 to 1.

Exception: For Existing Buildings Only

Where combined fire/domestic service does not meet the 4 to 1 ratio, the size of the combined fire and domestic water service shall be determined by hydraulic calculations based upon simultaneous flow of the fire sprinkler system remote design area **and** full domestic water demand. In making the hydraulic calculations, the domestic demand shall be based upon figures provided by the Saint Paul Regional Water Services (SPRWS). Fire service demand shall be based upon figures approved by the Fire Marshal.

2. All combined systems shall be installed and metered in accordance with SPRWS standards.
3. The combined fire and domestic water systems shall be maintained per the letter of approval issued by the Fire Marshal which shall stipulate:
 - a. Size of supply water main in the street
 - b. Size of combined water service from main to building
 - c. Size of fire service
 - d. Size of domestic service
 - e. Static pressure, as determined by flow test
 - f. Domestic usage, as calculated by SPRWS for number of fixture units.
 - g. Calculated fire system demand, as provided by fire sprinkler contractor
 - h. Total combined demand (fire service system demand plus domestic usage)
 - i. Fire pump capacity at 150% of maximum capacity

All hydraulic data must be reviewed by SPRWS prior to issuing Fire Marshal approval.

4. Changes in water supply, domestic and/or fire demand or changes in hydraulic calculations due to other factors, may negate the terms of the combined fire domestic water supply approval.